

### **REMARKS**

The application was filed with 85 claims. Applicant previously canceled claims 1-17, and 22-85. Claims 18-21 are currently being canceled. New claims 86-88 are being added. Accordingly, Claims 86-88 are currently pending. Applicant requests that the pending claims be considered.

#### **Examiner Interview**

On March 28, 2006, the Examiner mailed an Interview Summary regarding the telephonic interview of March 24, 2006. As described therein, Bridget E. Bunner, Examiner's mentor, Douglas W. Schelling, Applicant's attorney, and Examiner discussed the interpretation regarding claim scope for the pending claims. Applicant's attorney described the scope of the claim language as related to the technical rejections of the Examiner. Examiner described his interpretation of the claim language. Applicant's attorney indicated a willingness to file an RCE to proceed forward with prosecution of the application.

#### **Objection to Drawings**

In paragraph 4 of the Office Action, Examiner withdraws his previous objection to the drawings. Applicant acknowledges the action of the Examiner.

#### **Objection to the Specification**

In paragraph 6 of the Office Action, Examiner maintains his previous objection to the Specification. Applicant notes that the title of the application was previously amended by

amendment of the first paragraph of the application. However, Examiner suggests that Applicant make the following statement in order to formally amend the title of the application. Applicant hereby states that the title of the application has been amended as follows: Mosquito Arrestin 1 Polypeptide ~~Olfactory Genes, Polypeptides, and Methods of Use Thereof~~.

Rejections under 35 U.S.C. § 101

The Examiner rejected claims 18-21 under 35 U.S.C. § 101 because the claimed invention allegedly is not supported by either a specific and substantial asserted utility, or a well established utility. Applicant believes those rejections to be moot as claims 16-19 have been canceled. Accordingly, Applicant respectfully requests that the rejections be reconsidered and withdrawn.

Applicant has added new claims 86-88. No new matter has been added by the addition of new claims. Support for the new claims is found in the application as follows. Disclosure of SEQ ID NO: 2 is found on page 47, and Figure 2, as originally filed. Disclosure of conservatively modified SEQ ID NO: 2 is found on pages 14, 30, 31, and 32 as originally filed. Disclosure of a polypeptide fragment of at least 40 consecutive residues of SEQ ID NO: 2 is found on pages 30, 32, and 42, as originally filed.

Pursuant to the above-referenced Examiner Interview, Applicant uses “the” rather than “an” after the word “comprising” in each claim. Examiner stated that use of “an” has a meaning of two or more amino acids of the listed amino acid sequence. Thus, Applicant is following the suggestion of the Examiner.

With reference to the currently pending claims and the utility requirement, M.P.E.P. §2107.02(III)(A) states that “Office personnel must provide evidence sufficient to show that the statement of asserted utility would be considered "false" by a person of ordinary skill in the art. Of course, a person of ordinary skill must have the benefit of both facts and reasoning in order to assess the truth of a statement. This means that if the applicant has presented facts that support the reasoning used in asserting a utility, Office personnel must present countervailing facts and reasoning sufficient to establish that a person of ordinary skill would not believe the applicant's assertion of utility. *In re Brana*, 51 F.3d 1560, 34 USPQ2d 1436 (Fed. Cir. 1995). The initial evidentiary standard used during evaluation of this question is a preponderance of the evidence (i.e., the totality of facts and reasoning suggest that it is more likely than not that the statement of the applicant is false).”

In support of the assertions of utility set forth in the application, as filed, and pursuant to Examiner's request for evidence in paragraph 10 of the Office Action mailed December 28, 2005, and per M.P.E.P. §2107.02(VI), Applicant directs the Examiner's attention to the attached Declaration of the Inventor, which supports the utility asserted in the application, which is specific and substantial utility for the claimed invention. Specifically, *Anopheles gambiae* arrestin 1 (AgArr1) rescues olfactory defects in *Drosophila* olfactory physiology. For four separate odorants, AgArr1 in rescue flies returned wild-type olfactory responses. Further, in the *Anopheles gambiae* system, functional data is provided via the Declaration which shows that when RNA interference is used to induce gene silencing of AgArr1, the result is significant reductions in electrolabellogram responses to odorants which typically elicit strong electrolabellogram responses from wild-type animals. Finally, the Declaration describes further data that AgArr1 mRNA levels are also significantly reduced in response to target siRNAs.

Accordingly, the currently claimed invention has utility as the claimed protein is involved in the olfaction cascade, as asserted in the application as filed. Applicant believes the asserted utility to be specific, substantial, and credible. Also, the polypeptide fragment of claim 88 has utility as an immunogen, as described on page 42 of the application, as originally filed.

Rejections under 35 U.S.C. § 112

The Examiner rejected claims 18-21 under 35 U.S.C. § 112, first paragraph. Applicant believes those rejections to be moot as claims 18-21 have been canceled. Accordingly, Applicant respectfully requests that the rejections be reconsidered and withdrawn.

Based upon the content of the new claims and the support cited above, Applicant believes 35 U.S.C. § 112, first paragraph, to be satisfied. Disclosure of SEQ ID NO: 2 is found on page 47, and Figure 2, as originally filed. Disclosure of conservatively modified SEQ ID NO: 2 is found on pages 14, 30, 31, and 32 as originally filed. Disclosure of a polypeptide fragment of at least 40 consecutive residues of SEQ ID NO: 2 is found on pages 30, 32, and 42, as originally filed.

Rejections under 35 U.S.C. § 112 (written description)

The Examiner rejected claims 18-21 under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor had possession of the claimed invention. Applicant believes those rejections to be moot as claims 18-21 have been canceled. Accordingly, Applicant respectfully requests that the rejections be reconsidered and withdrawn.

Regarding the currently pending claims, Applicant believes the specification to provide written description support. Specifically, Applicant draws the Examiner's attention to the above-referenced sections of the application, as originally filed, in addition to the application as a whole. Applicant disclosed SEQ ID NO: 2 on page 47 of the application, as originally filed. Applicant also described several domains implicated in arrestin function, such as SH3 binding sites, on page 24 of the application, as originally filed. Applicant also described conservative modifications on pages 31-32 and provided several examples on pages 41-45 of the application, as originally filed.

Applicant has merely commented upon certain aspects of the invention and reserve the right to provide further comments as necessary. Applicant notes that these remarks should not create limitations to the claims and that the claim language itself should be considered.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

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